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**ORIGINAL ARTICLE**

## How does organizational space help organizations cope with the challenges of ambidexterity and continue to innovate? A space reorganization experiment in a transitioning organization

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### ABSTRACT

Influenced by internal and external factors, organizations are increasingly operating in divergent fields that require them to develop ambidextrous competencies. While research relating ambidexterity to aspects such as strategy and innovation has reached a maturity stage, we still know little about the strategic processes that allow organizations to implement ambidexterity, and in particular about the role that organizational space can play in an organization's attempt to become ambidextrous. By conducting a qualitative study in the medical and scientific division of the Italian National Olympic Committee trying to incorporate an exploitation logic in addition to its dominant exploration logic, we describe a two-phase experiment in which the organization leveraged the organizational space as a transition tool towards ambidexterity, while also trying to maintain its explorative innovation-driven competitive advantage. We find that organizational space can be used as a coping tool against identity and competence threats triggered by organizational transition to ambidexterity, affording both integration and differentiation of the ambidextrous logics.

**Keywords:** *Organizational space, organizational change, ambidexterity, innovation, coordination, integration, differentiation.*

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### INTRODUCTION

Increasing evidence shows that organizations exit their comfort zones in search of a renewed equilibrium between external changes (industry shocks, sectorial crises, new policies and regulation) and internal needs for growth and development (Andriopoulos & Lewis 2009; Jansen et al. 2009; Van Looy et al. 2005). There is growing consensus that organizational ambidexterity -i.e., simultaneous exploration of new capabilities and exploitation of current capabilities- is critical to such endeavour, often ensuring a renewed and more stable source of success (Cao et al. 2009; O'Reilly & Tushman 2008; Raisch et al. 2009). Unfortunately, ambidexterity studies have not provided a synthesis of the actions managers operating in complex organizations can consider for achieving ambidexterity (Raisch & Birkinshaw 2008; Turner et al., 2012). Many studies have highlighted the challenges of implementing structural ambidexterity -i.e., using separate business units to perform exploitation and exploration activities (Tushman & O'Reilly 1996, Simsek et al. 2009). However, as suggested more recently, since structure alone does not capture the dynamic, multifaceted and emergent nature of ambidexterity implementation, new areas of inquiry are starting to involve the cognitive and behavioural

processes by which ambidextrous structures are managed (coordination, decision making, organizational role leveraging, leadership, etc.) (Jansen et al. 2009; Lubatkin et al. 2006; Turner et al. 2013). In this study, we propose that organizational space can constitute an extremely useful theoretical and empirical tool for bridging structural and process-based approaches to ambidexterity implementation.

To this concern, we investigate the role played by organizational space in managing the change process regarding ambidexterity implementation. We inquire about how organizational space shapes an organization's strategies for managing ambidexterity and the subsequent impact on innovation inside the organization.

We conducted a longitudinal qualitative study in the Institute of Sports Medicine and Science (IMSS) of the Italian National Olympic Committee, focusing on the organization's attempts to make a transition from a public-owned functioning based on athlete expert services (exploration) to a more sustainable model that added for profit services to private customers (exploitation). Our findings document several experiments of space reorganization, each serving the organization's need for control, especially in relation to threats of identity and core competence loss. We contribute to the literature on

ambidexterity, organizational space and knowledge management.

## THEORETICAL BACKGROUND

It has been argued that the ability to balance exploration and exploitation reflects a complex capability that provides organizations a strong source of competitive advantage. Some have even referred to this combinational ability as an additional competence that goes beyond the single competencies that the organizations normally have (O'Reilly & Tushman 2013; Raisch & Birkinshaw 2008). Ambidexterity is thus of central importance to the competitive advantage of the firm, yet to date there is limited understanding of how it is managed (Turner et al., 2013).

To be ambidextrous, organizations must reconcile environmental pressures, conflicting demands from external stakeholders and internal tensions, often all at once (Duncan, 1976; Tushman & O'Reilly, 1996). Whereas early studies described such challenges as insurmountable, more recent research has presented a range of organizational strategies, mechanisms and solutions aimed at achieving ambidexterity (Andriopoulos & Lewis, 2009; Raisch & Birkinshaw 2008; Turner et al., 2012). Some scholars have referred to structural mechanisms for achieving ambidexterity, meaning implementation of an ambidextrous approach by using separate business units, usually by dedicating one unit to exploration and the other to exploitation (Duncan, 1976; O'Reilly and Tushman 2008; 2013; Simsek et al. 2009). Since these units are structurally separate or loosely coupled, they must be integrated at the organizational level, not only structurally but also from a process standpoint (O'Reilly and Tushman 2008). For instance, research shows that it is not enough that resources are allocated to each unit, but that tailored processes are followed in each unit. This implies conceiving organizational design as emergent, dynamic and in need of constant coordination (Benner & Tushman, 2015; Jansen et al 2009; Simsek et al. 2009). The literature on structural ambidexterity has frequently taken a static perspective of organizational behaviour, although it is widely known that organizations must continuously reconfigure their activities to meet changing external and internal conditions (Raisch & Birkinshaw 2008; O'Reilly et al., 2013). A process-based approach (Brown & Eisenhardt 1997; Turner et al., 2012) is thus necessary to reach a more dynamic and omni comprehensive understanding of ambidexterity implementation in complex organizational settings. Westerman and colleagues (2006) are among the few scholars who have examined how firms adapt organizational designs in the various stages of the innovation's lifecycle, showing that firms may use different strategies of implementation that range in terms of autonomy and integration and are subject to change over time. Birkinshaw and colleagues

(2016) describe three different modes of ambidexterity implementation: structural separation, behavioral integration, and sequential alternation. Additionally, increasing attention has been dedicated to behavioural and cognitive processes occurring within organizations that face ambidexterity, for instance leadership characteristics (Lubatkin et al. 2006; Smith & Tushman 2005), coordination challenges related to the management of separate ambidextrous units (Jansen et al. 2009; Prange & Schlegelmilch 2009; Simek et al. 2009), decision making about the degree of integration and/or autonomy of the different units (Birkinshaw & Gibson 2004) or controllability and responsiveness during processes of organizational change (Graetz and Smith 2005). However, despite these new directions, we still know relatively little about the structures, mechanisms, challenges and consequences of implementing ambidexterity in an organization. For instance, Prange and Schlegelmilch (2009) notice that despite the growing interest among researchers and the pressing need of practitioners, there is a dearth of research that investigates the implementation of conflicting ambidextrous structures. A promising direction seems to be constituted by a combination of structural and process-based approaches to ambidexterity. Kang and Snell (2009) have suggested that more attention needs to be dedicated to how organizational resources are used in the process of ambidexterity. Studying resource orchestration may present a clearer picture of ambidexterity at the micro-level than is currently understood using organizational-level themes of structural, contextual and temporal ambidexterity (Raisch & Birkinshaw 2008; O'Reilly et al. 2013; Turner et al. 2013).

We suggest that a new answer to this question can be provided through the study of organizational space. We know that the setup, design, planning and use of organizational space is highly dependent on an organization's mission, strategy, resource structure as well as on its culture and identity more in general (see Elsbach & Pratt 2007). For this reason, organizations are highly cautious in taking decisions about reorganizing space because it implies balancing many complex variables such as the structural and process-based issues discussed above. An experiment of spatial reorganization, we argue, may be used to setup structural units for exploration and exploitation. We know that introducing barriers and space dividers may increase work performance and employee satisfaction via privacy, on the one hand, but also trigger the opposite effect, via social isolation and conflict (Brennan et al. 2002; Carlopio & Gardner 1992; Morrow & McElroy 1981). Fayard and Weeks (2007) reveal that the organization of space has a paramount role in generating interaction, according to how organizations balance proximity, privacy and affordability (i.e., extent to which employers feel free to work together on innovation projects). In relation to innovation, physical artifacts such as office alcoves, water coolers and coffee machines have been shown to afford

an environment high on creativity and innovation capabilities, via physical proximity (Elsbach & Pratt 2007). The use of organizational space, thus, could be a tool to implement any of the ambidexterity strategies mentioned above, from differentiation to integration, and up to more sophisticated strategies based on selective coupling. For instance, designing a modular space may help integrate an R&D and a commercial area, strengthen and/or change the identity of each unit, or set rules for communication between them.

Based on these arguments, we propose to investigate the role of organizational space in ambidexterity implementation.

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## METHOD AND DATA

We conducted a longitudinal qualitative study in the Italian National Olympic Committee (CONI), a public entity that by authority of the International Olympic Committee provides discipline, regulation and management of national sports activities. Permanently established in 1914 in Rome, today CONI endorses 45 National Sports Federations, 19 Associated Disciplines, and has around 11 million members. We focused on the Institute of Sports Medicine and Science that, ever since 1963, has been the medical and scientific division of CONI. The Institute was born with the social mission of enhancing Italian sports by doing research on the physical and psychological wellbeing of Italian Olympic athletes, and thus of improving their athletic performances. This logic was exploration-based because it mainly focused on innovation. Accordingly, scientific research and innovation in athlete treatment were the Institute's main strengths that supported Italian sports in reaching their excellence potential. Traditionally a public entity controlled by the Italian Government, since 2012 IMSS has embarked on a long-term project of adding for-profit medical services for private citizens (athletes and non), in support of its core mission. This implied a change in business model in which the explorative innovation-driven logic (athlete research and innovative treatment) was integrated with an exploitation logic (using existing competencies to offer for profit medical services). Such change in the business model included the reorganization of IMSS's internal processes, organizational space and technological assets. This case was particularly suitable for studying in real time how the organization experimented with organizational space to achieve exploration-exploitation ambidexterity.

We entered the data in a strategic moment, as informants were transitioning from their first to their second experiment of space reorganization. We collected data through 150 hours of non-participant and participant observation inside IMSS, as well as through 45 interviews with IMSS employees conducted from April to October 2017. Our informants came from all the departments in IMSS, and were doctors, physiotherapists, athletes, staff

(planning and strategy, administration, finance, reception, insurance), as well as patients (athletes and non). We also collected 100 documents produced at the time of the research or previously. We combined the rich observational data collected in the field with archival data and individuals' retrospective accounts to build a process model spanning from the pre-experimental stage to the two space reorganization experiments. The material collected was coded following a grounded theory approach (Strauss & Corbin 1998) using Atlas.ti software. As we developed our open coding, we searched for informants' words describing logics 1 (exploration) and logic 2 (exploitation), how they described transition between logics, and how they coped with the change. As we went back and forth between theory and data, we developed higher abstraction second-order themes which we later organized in theoretical aggregates to account for the relations between themes (Gioia *et al.* 2013). To check the soundness of our interpretation, we submitted a survey to our informants to confirm the second-order themes and the theoretical aggregates in the model.

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## RESULTS

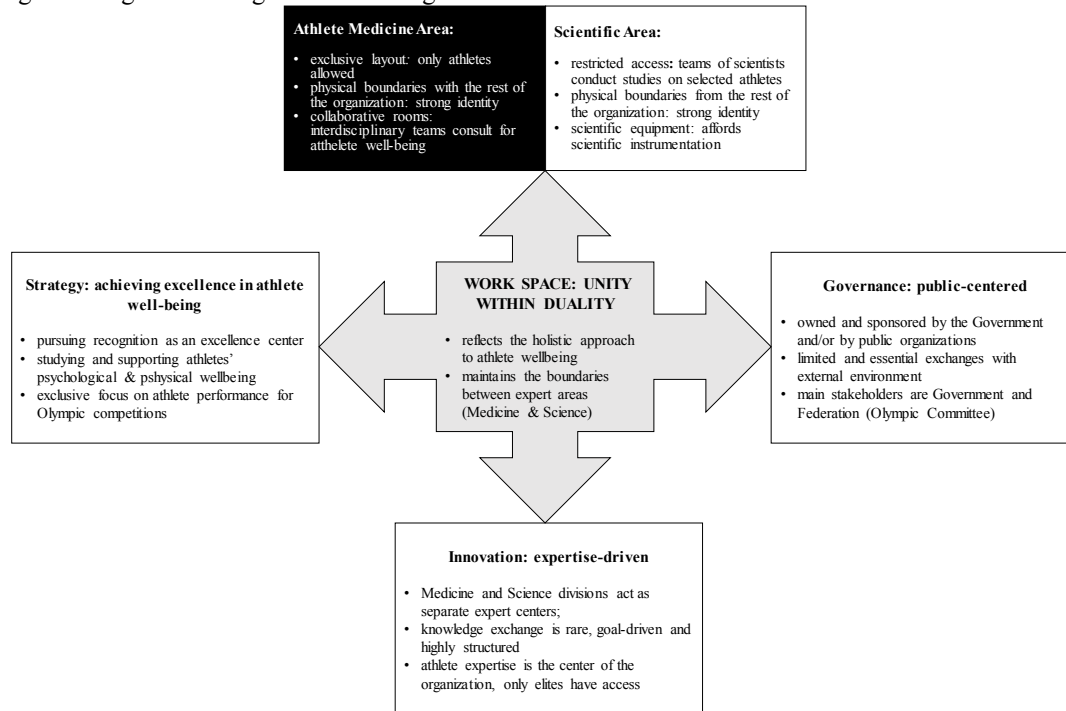
As follows, we present the grounded model that explains the role of organizational space in organizational change concerning hybridization. We describe the model by briefly presenting three stages by which the organization change occurred, focusing for each stage on the second order themes and theoretical aggregates identified in the coding process.

### Stage 1: Pre-experimental condition

The pre-experiment includes courses of action by which IMSS consolidated its strategy, governance and innovation-based identity as a public organization that studied and promoted athlete wellbeing (logic 1 - exploration). As described in figure 1, the strategy of IMSS was to pursue recognition as an excellence centre that studied and supported athletes' psychological and physical wellbeing. To pursue logic 1 (from now on, L1), IMSS was organized around two distinct units: Athlete Medicine and Sports Science. Since both divisions provided free assistance to selected athletes (i.e., were considered an elitist benefit for Olympic athletes only), IMSS was 100% owned and sponsored by the Italian Ministry of Economic Affairs. The organizational space of IMSS reflected well this dual organization. The space of the two units was well characterized. Not only had each unit space an exclusive layout that communicated the strong identity of each division, but it also entailed restricted access to specific stakeholders (the Medicine area was for athletes only, while the Science area was even more restrictive, as it allowed only the access of athletes selected for scientific trials). The collaborative rooms and the technologies were also well-characterized,

communicating the message of a unitary space that entailed and reconciled dualities. The space was characterized by a strong innovation focus inside each division (e.g. creating and testing new technologies for

athlete health diagnostics and publishing cutting edge research) and rare, goal-driven and highly structured interactions across divisions.



**Fig. 1.** Pre-experimental condition: Dominance of logic 1: dualistic space, holistic expert approach

### Stage 2: First ambidexterity experiment

Ever since 1999, there had been several attempts to implement ambidexterity. The Ministry adopted several decrees by which it no longer assumed total responsibility for financing IMSS and contemplated the possibility that the organization “carried out for profit activities, even of commercial nature” (law 242/1999 – ‘Melandri decree’). Until the 2008 economic crisis, the decree remained virtually unacted but in 2012 IMSS was entrusted to a new management team that proposed to accelerate the change plan. An entrepreneur and ex-football player known in IMSS as “the politician in tennis shoes” was entrusted a reorganization plan that contemplated the diffused introduction of for profit services (L2) to private customers (i.e., providing training and rehabilitation services for the broad public based on exploration of existing competencies rather than on research and innovation). To support this change, a Private Medicine division was set up and new staff was hired both in support of existing services and for providing new services.

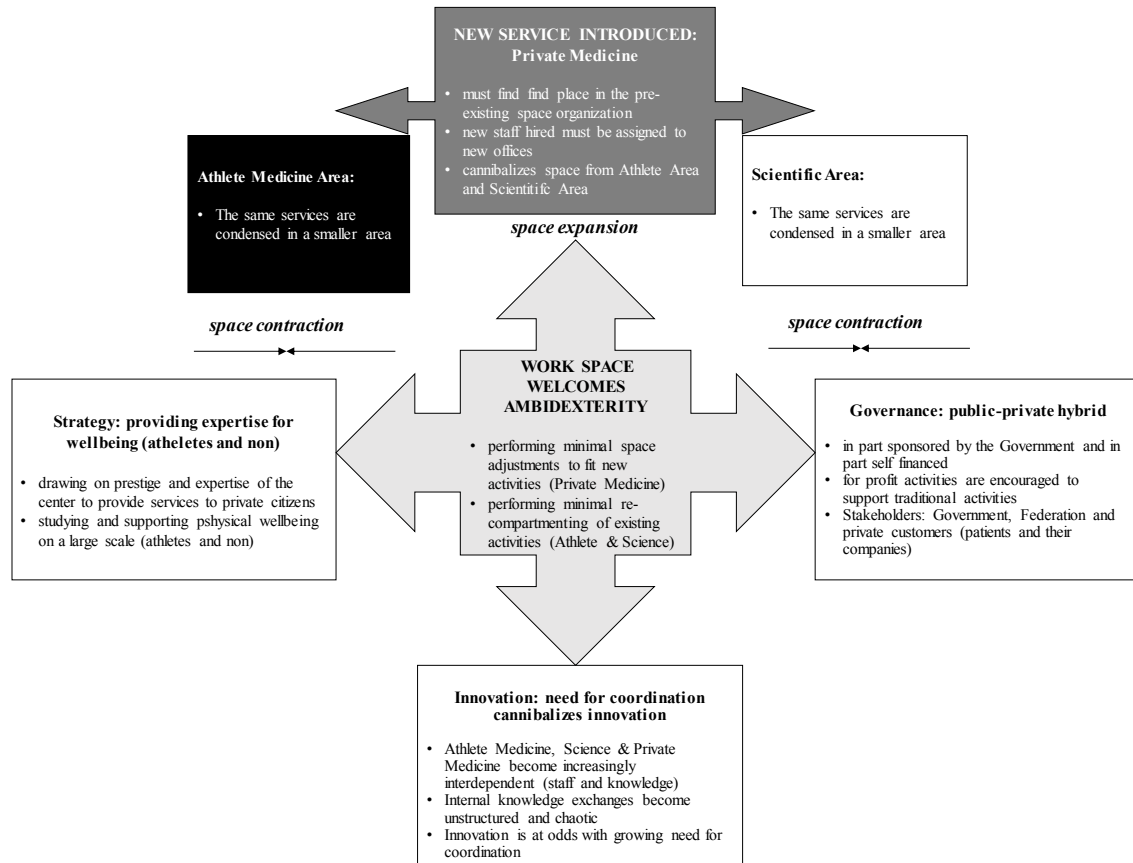
The President of IMSS also contemplated the reorganization and modernization of the IMSS working space, facilities and medical equipment, as to enhance both exploration and exploitation activities. However, for the first years after introducing private services, the space did not change significantly to reflect their increasing

incidence in IMSS functioning. Instead, the organization tried to ‘squeeze in’ the new area (i.e., a new area created to introduce private patients to the consulting rooms). This was accomplished by contracting and reorganizing the space reserved to the pre-existing Science and Medicine areas.

We found that this first experiment was perceived as the beginning of a potential organizational crisis. The addition of a new division made IMSS staff increasingly interdependent: Not only they had to coordinate to cover service to private patients, but they also had to revise their roles and their knowledge exchange strategies, while being constrained by a rigid pre-existing functional organizational space. We found that this also impacted on the organization’s approach to innovation that became increasingly unstructured. Since IMSS staff spent increasing time coordinating for private services and negotiating space divisions, they lamented that the experiment inhibited their core innovation activities (i.e., experimenting new therapies for athletes and publishing in scientific journals, respectively). Figure 2 summarizes the space reorganization strategy by which Logic 2 (exploitation through private medicine) was incorporated in support to Logic 1 (exploration through athlete medicine and science).

In addition, table 1 provides field note excerpts from our interviews with informants.





**Fig. 2.** First ambidexterity experiment: introduction of private medicine services (logic 2) cannibalizes pre-existing space (logic 1)

**Tab. 1.** Interview excerpts exemplifying the process of implementing ambidexterity across three stages

Stage	Ambidexterity implementation strategy	Space organization & use
Stage 1	<p><b>Pre-experimental condition: Dominance of Logic 1 Holistic expert approach (Athlete Medicine &amp; Science)</b></p> <p>"IMSS has always been thought of as an institution at the service of the federations, its fundamental mission was to take care of the athletes of the federations especially of that category of the Olympic talent pool, which was considered and I think it should still be considered as the priority objective of the IMSS."</p>	<p><b>Space functional to Logic1 –dual division, holistic expert approach</b></p> <p>"Everybody saw it as a center of excellence, people used to compete to be recommended to receive a visit from the doctors of the Institute. Now there is still something left but first, being a very selective structure, being structured to see few people, the maximum target was 10 athletes a day, we were not open to the public (...). it was considered a place for the privileged, thus the excellent"</p>
Stage 2	<p><b>First ambidexterity experiment: Incorporating Logic 2 (Private Medicine services) in support of Logic 1</b></p> <p>"We have therefore witnessed a transformation from what was a world of public service organization, to a world that works more in the private sector, therefore with greater attention to service, to quality, performance, to the effect that these performances generate in users, in short, much more attentive to the needs of the market"</p>	<p><b>Space remains invariant, activities must fit it, pre-existing space is cannibalized</b></p> <p>"Entering into a more private world has limited the freedom of our doctors (...) they were also part of a unique team with two souls, science and medicine, and in the last time this was lost. The place was the same but we no longer worked together for a single purpose but everyone did his job as a doctor alone. The change I was talking about (space reorganization) became necessary or rather inevitable"</p>
Stage 3	<p><b>Reinforce L1 and avoid inter-logic cannibalization</b></p> <p>"We realized the change was unavoidable (...) we could have even risked being closed down, that would have been a tremendous mistake (...) but change brought along pros and cons, so we needed to make sure we stayed on top of this (...) not become an anonymous medical clinic like any other"</p>	<p><b>Radical space reorganization: Open Dynamic Space, Olympic Training Center and Museum</b></p> <p>"The museum space should tell the same story to different worlds, privates, sports, and public sector, it must become the 'soul of the organization, so to say, its unique identity (...)"</p> <p>"Imss must have the best technologies this is certainly one fundamental point of the research, but also to generate a flow of knowledge from one generation to the next"</p>

### Stage 3: Second ambidexterity experiment

After introducing for profit services inside IMSS, medical and administrative staff lamented that attempts to implement ambidexterity risked triggering the breakdown of organizational and innovation processes. As much as actors attempted to divide their time between Science, Athlete Medicine and Private Services, managing large numbers of private patients threatened the pre-existent order of roles and innovation practices within IMSS, rendering the situation 'chaotic'. Excerpts in table 1 exemplify how informants lamented that non-profit services (L2) were cannibalizing IMSS's pre-existing competitive advantage related to scientific research and athlete consulting (L2) and that this threatened IMSS's organizational identity.

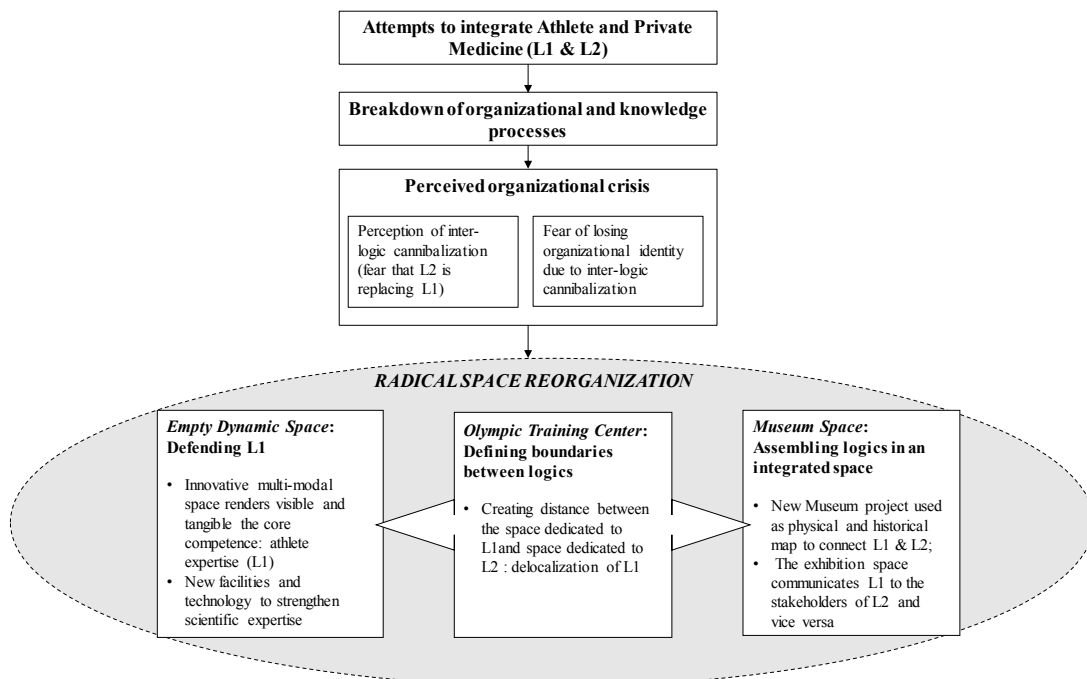
To deal with these threats, a new experiment of radical space reorganization was performed by blending strategies of differentiation and integration to pursue logic balance. As shown in figure 3 below, the reorganization entailed the creation of three new spaces, each having a different and complementary function in pursuing balance between L1 and L2 reinforcing L1 (differentiation) and preventing inter-logic cannibalization (differentiation and integration).

In terms of space reorganization, it was decided that the Science Division left its current space to the Private Division and inherited a new space called Open Dynamic Space (ODS) that included a versatile organization of space and the introduction of state-of-art facilities for scientific research and advanced athlete training and

diagnostics. Examples are consisted of cold chambers for systemic cryotherapy, 3D cinematics and optoelectronic technology.

To avoid that L1 was cannibalized by L2, IMSS also invested in modern technologies and equipment in the Olympic Training Centre (OTC) situated 170 km away from the IMSS headquarters. By delocalizing L1, the organization reemphasized the boundaries between the two logics while acknowledging the priority of L1 as a source of competitive advantage that had to be preserved at all costs.

Last, the reorganization also entailed the creation of a new IMSS Museum that aimed at assembling the two logics in an integrated space (i.e., the entrance in the IMSS building). The space was intended as a historical and spatial map of the organization, making visible to athletes, private customers and institutional stakeholders alike those artefacts and events that determined its identity. Examples include samples of important scientific publications, photographs of famous IMSS scientists and athletes, as well as technological artefacts invented by the organization through time such as race bicycles, ergometer tanks or a wind gallery for sporting use. These were made accessible to everyone, including private customers, in order to strengthen and integrate the identity of the Institute. Thus, the three-fold reorganization of the space reaffirmed IMSS's identity based on L1 while also finding an adequate space for L2. Additionally, it allowed tracing visible and tangible boundaries between the two logics as to maintain control on how the ambidexterity process evolved.



**Fig. 3.** Second ambidexterity experiment: radical space reorganization to reinforce logic 1 and avoid inter-logic cannibalization

## DISCUSSION AND CONCLUSIONS

Our work supports findings in ambidexterity literature concerning the radical and pervasive transformation triggered by the adoption of a new functioning logic (Raisch & Birkinshaw 2008, Turner et al. 2013; Tushman & O'Reilly 1996). We have argued that ambidexterity is not yet fully established as an explicit managerial strategy. This study documented that managerial experiments with space reorganization require holistic interventions in which the material organization (i.e., structure) of the physical space ends up embodying all the relevant organizational processes such as organizational strategy, governance changes and the pursued innovation strategy.

While previous studies have started to focus on more sophisticated ambidexterity strategies that go beyond differentiation and integration, we bring evidence of how organizations can use organizational space as a tool to experiment and stabilize intermediary configurations based on simultaneous integration and separation (Jay 2013; Birkinshaw et al. 2016). We have shown that the physical space of the organization can be used like a white paper on which divisions can be traced, deleted, retraced, and eventually put together in such way as to create an impression of unification within division. However, space experiments can also be costly. One of the main risks of ambidexterity is mission drift, a process by which an organization gets carried away by the newly adopted logic and grows distant from the logic that has represented its durable competitive advantage (Andriopoulos & Lewis 2009; Lubatkin et al. 2006; Ungureanu et al., 2018a). We have shown that the first space reorganization experiment ran the risk of undermining the organization's competitive advantage based on expert knowledge and innovation. The experiment was discontinued and replaced with a new one as soon as the organization's members started manifesting breakdowns in identity and innovation strategy. This study teaches us that the need to defend one's uniqueness (i.e., organizational identity) plays a paramount role in actors' attempts to create physical boundaries (Brown & Humphreys 2006; Fleming & Spicer 2004), just as the increasing pressures of new stakeholders (i.e., private customers) may push for an integrated space in which the organizational change becomes visible, tangible and pliable to all involved parties (De Vaujany & Vaast 2013; Ungureanu et al. 2018b). Thus, on the one hand, organizational space may increase the salience of dissonance between past and present and steer conflicts (i.e., visibility of an inadequate place). On the other hand, when organizations learn from and improve their earlier prototypes, radical space reorganization can guide the way towards future change. Thus, the design of the

organizational space must be always considered at the light of affordances and constraints for ambidexterity, by assessing carefully the opportunities and costs of different space reorganization experiments (early vs. late stage reorganization, gradual vs. radical reorganizations, identity consolidating vs. change, etc.)

In terms of relation between ambidexterity implementation, innovation and space reorganization, we have shown that when actors perceive that their core competence is innovation-driven (explorative), they will try to protect it, creating barriers with respect to coordinating activities that require exploitation. Future research may investigate what happens in the opposite situation in which the knowledge produced under the dominant logic is exploitation-based and the new logic is innovation-driven. Additionally, while our research adopted an organizational focus, studies on single user experiences are also necessary. Future studies may investigate the extent to which different organizational members push for and use the ambidextrous reorganization of space. Finally, future studies could address experimentations in different organizational and creative spaces, such as IdeaSquare at Cern, with particular attention to obstacles to space reorganization, the tensions they can hoard, and their impact on ambidexterity.

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